

discussed before and there is no need to repeat the argument here. If the quality of the data which constitute the program's input is low the gain may be fairly slight, but diagnoses derived by a computer from unreliable data will still be at least as useful as those derived from the same data by other means. But the development and progressive refinement of computer programs for generating diagnoses have other less immediate but equally important consequences. By creating, as they do, a range of experimental models simulating the process by which clinicians arrive at diagnoses, they focus attention on the largely unexplored mechanisms of diagnostic pattern recognition and decision making. By producing, as they also do, a variety of alternative diagnostic criteria, each of them explicit and available for public scrutiny, they serve to focus attention on the neglected issue of the validity of our diagnoses. Consider, for example, a situation in which three different programs are in use simultaneously, all embodying different concepts of schizophrenia. In such a situation psychiatrists would be forced to consider which of the three concepts was the most useful, and in so doing to decide what their criterion of usefulness or validity was to be. Alternatively, a situation might well arise in which one particular program came into general use, perhaps in combination with a particular interviewing schedule or rating scale. Such a development would have profound implications, much greater than those accompanying the popularization of other instruments like the MMPI or the Rorschach Test. For whoever exports his program also exports his diagnostic criteria. We could well find that the diagnostic criteria currently used in one particular country, or even in a particular university department, might come into general use in the wake of the widespread adoption of a popular computer program embodying those criteria. For these and other reasons the application of computer technology to psychiatric diagnosis may prove to be a development of much greater moment than is yet apparent.

DECISION TREE PROGRAMS

Three quite different kinds of computer program have been used for generating diagnoses; those based on a logical decision tree, those based on probability theory and those based on multiple discriminant functions. The decision tree method is the easiest to understand for those with little knowledge of statistics for the simple reason that it does not involve any. It consists purely of a series of questions each of which has to be answered yes or no. Each successive answer eliminates one or more diagnoses or groups of diagnoses and also determines the next question asked, until every diagnosis but one has been eliminated. For example, the first question, based on a group of items concerned with cognitive functioning, might be used to determine whether the illness was organic or not. If the answer was 'no' the second question, based perhaps on a series of items about delusions and hallucinations, might determine whether the illness was

psychotic or neurotic, and so on. In this way every possible combination of symptoms is reduced to one or other of the diagnoses recognized in the system. Individual questions may specify the presence of a single item, or that a score derived from several items should lie within a certain range, or be based on complex alternatives involving numerous items in different combinations. The formal structure of a decision tree is actually the same as that of a railway marshalling yard, with patients corresponding to individual trucks, the yes/no questions to sets of points and the trains at the bottom of the yard to diagnoses. When it starts its journey at the top of the yard each truck has the potential to join any of the trains, but each time it passes a set of points its choice becomes more restricted until eventually it is committed to one particular train.

Diagno

Spitzer's *Diagno* (Spitzer and Endicott, 1968) was the first program of this type to be developed. It is based on the thirty nine scale scores of a structured mental state interview known as the Psychiatric Status Schedule (see chapter 10) and allocates every patient to one of twenty seven diagnostic categories, including 'not ill' and 'non-specific illness with mild symptomatology'. It was soon followed by *Diagno II* (Spitzer and Endicott, 1969), a more complex program containing fifty seven decision points compared with *Diagno*'s thirty six and incorporating a limited capacity to revise decisions made at an earlier stage in the sequence. This program utilizes historical data in addition to mental state information in the form of the Current and Past Psychopathology Scales (CAPPS - see Endicott and Spitzer, 1972) and generates a total of forty six different diagnoses, including personality disorders. In a study based on 100 sets of CAPPS ratings, and using K_{ω} as an index of concordance, Spitzer and Endicott were able to show that the diagnostic agreement between *Diagno II* and clinicians was as good as that between one clinician and another, thus demonstrating the face validity as well as the reliability of the computer's diagnoses.

Catego

More recently Wing and his colleagues (Wing, Cooper and Sartorius, 1974) have developed a similar program, known as *Catego*, based on their structured Present State Examination. The design of this program is rather different from that of *Diagno*. Instead of single diagnoses or groups of diagnoses being eliminated one by one the original input, which consists of 350 PSE items, passes through a progressive series of condensations and all decisions about actual diagnoses are postponed until the final stage. The 350 items are first reduced to 140 'symptoms' and these in turn reduced to thirty five 'syndromes'. Next these syndromes are

condensed to six 'descriptive categories'. Up to this stage there is no restriction on the number of elements which any individual patient may exhibit but in the next stage, whether the patient has previously qualified for one descriptive category or all six, his symptomatology is reduced to a single 'descriptive class'. Essentially the same procedure is carried out independently with other data (if it is available) for all previous episodes of illness and the final 'provisional diagnostic class' is then derived from the separate descriptive class assignments of all episodes of illness, past or present. The Catego program prints out all the symptoms, syndromes and descriptive categories exhibited by each individual patient, together with a rough three point ranking (?, +, and ++) for each, in addition to the final 'provisional diagnostic class' or diagnosis. In this way much useful information is provided in a standardized form which enables unusual or borderline patients to be distinguished from those with typical symptom patterns.

The potential of this and similar programs was well illustrated in the International Pilot Study of Schizophrenia where it was used to derive standard 'diagnoses' from the PSE ratings of all 1200 patients from the nine countries involved (WHO, 1973a). In this way, several important similarities and differences in the range of patient types encountered in the nine countries were exposed, and also important similarities and differences in the diagnostic criteria of the local psychiatrists in each centre.

PROBABILISTIC METHODS

The second approach is a probabilistic or statistical one based on Bayes' theorem. The basic statement of this theorem is:

$$P(d_i/s_j) = \frac{P(d_i) \cdot P(s_j/d_i)}{\sum_k P(d_k) \cdot P(s_j/d_k)}$$

where

$P(d_i/s_j)$ is the probability that a patient with the constellation of symptoms s_j has the disease d_i .

$P(d_i)$ is the probability (or incidence) of the disease d_i in the population under consideration.

$P(s_j/d_i)$ is the incidence of the symptoms s_j in the disease d_i .

$P(d_k)$ is the incidence of each disease $1 \rightarrow k$ in the population.

and

$P(s_j/d_k)$ is the incidence of the symptoms s_j in each of the diseases $1 \rightarrow k$.

Most of the early programs for deriving psychiatric diagnoses by computer were of this type (Birnbaum and Maxwell, 1961; Overall and Gorham, 1963; Overall and Hollister, 1964; Smith, 1966) but, in spite of the obvious relevance of

probability theory to diagnosis, the Bayesian model has several disadvantages. It assumes that each of the symptoms $1 \rightarrow j$ is independent of the others and that the diseases $1 \rightarrow k$ are similarly independent of one another. In fact, neither of these assumptions is justified, though symptom independence can be artificially produced by replacing the actual ratings by principal components derived from them. The Bayesian model also requires a reasonable estimate of the incidence of the various symptoms $1 \rightarrow j$ in each of the diseases $1 \rightarrow k$ in the population under consideration, and a similar estimate of the relative frequency of these diseases in that population. In practice these data are rarely available and both Overall and Smith were forced to resort to the questionable procedure of using ratings of hypothetical typical cases to provide their estimates of the distributions of symptoms across diseases, and also to assume that each disease was equally probable.

DISCRIMINANT FUNCTIONS

The third group of techniques is based on the discriminant function procedures introduced by Fisher (1936) and Rao (1948). They are described in more detail in chapter 8, but in its simplest form discriminant analysis involves two populations, one whose members have been assigned a clinical diagnosis A and the other a diagnosis B, and all of whom have been rated for the presence or absence of N items relevant to the distinction between A and B. Starting with these data the analysis produces a linear variable (the discriminant function) consisting of a set of weights for the N items calculated so as to maximize the ratio of between-group to within-group variance. As a result, when a score is derived for each patient by adding together his weighted scores on the N items, the separation between those with diagnosis A and those with diagnosis B is maximal. Subsequently, this discriminant function can be used to allocate any patient who has been rated on the N items to the appropriate diagnosis, A or B. In practice several diagnoses are usually involved, not just two, which means using a multiple stepwise discriminant procedure, but the basic principle remains unchanged. Techniques of this sort have been used by Melrose, Stroebel and Glueck (1970) in Connecticut and Sletten, Ulett, Altman and Sunderland (1970) in Missouri. The latter at least were able to obtain a level of agreement between clinical and computer diagnoses comparable to that achieved by Spitzer with Diagno II and have since developed this computer service as a routine procedure in all the psychiatric hospitals in the Missouri State system (Sletten, Altman and Ulett, 1971). Using data from a mental state examination and standard demographic information the central computer provides for each patient within minutes, or at most a few hours, the probabilities of that patient belonging to each of eight broad diagnostic groupings [acute organic brain syndrome, paranoid schizophrenia, personality disorder, etc.]

The relative merits of the three approaches

It is debatable which of these three approaches corresponds most closely to the reasoning processes employed by clinicians. Claims have been made on behalf of all three, each of them with some justification. Really we know too little about the decision-making processes of clinicians to decide, and it may well be that they use different strategies in different situations. The hierarchical nature of most of our classifications, with each diagnosis excluding the presence of those that precede it and encompassing the symptoms of those that follow it, strongly suggests a sequence of decisions akin to that of a decision tree. On the other hand, clinicians are clearly influenced by considerations of relative probability comparable to those embodied in Bayes' Theorem. And when concerned with a particular differential diagnosis they may well allocate rough weights to the symptoms suggesting each of the two diagnoses and compare them in much the same way as a simple discriminant procedure does.

It is also arguable which of the three is the most useful. The decision tree method is the simplest, and also the easiest to construct, but each program is usable only with the particular rating scale or structured interview for which it was designed and individual diagnostic distinctions are necessarily based on rather crude criteria. The two statistical procedures share the important advantage that they provide not just a single diagnosis but an estimate, expressed as a probability by the Bayes method and as a distance by the discriminant function method, of how closely the patient resembles typical members of several different categories, thus allowing meaningful alternative diagnoses to be provided and distinguishing typical cases from those with unusual or borderline symptoms. However, both have disadvantages also. As we have already seen, Bayes' theorem makes the unjustified assumption that both symptoms and diagnoses are independent of one another, and also requires prior knowledge of the distributions of symptoms across diseases and, to achieve its full potential, prior knowledge of the relative incidence of the diseases under consideration as well. Discriminant function procedures start with several advantages. They involve fewer unfulfilled assumptions than the probabilistic approach, can handle numeric data without having to break them up into arbitrary nominal groups as the other two methods do, and have the ability to focus large amounts of data onto individual diagnostic discriminations to optimum effect. Their big disadvantage is that the linear functions they utilize have to be derived in the first place from ratings on large populations of patients, the size of the requisite population being governed by the product of the number of separate ratings or scores being used and the number of diagnostic categories to be distinguished. In practice, this means that unless a thousand or more sets of ratings are available one either has to confine oneself to distinguishing a small number of broad diagnostic groups, or make unjustified assumptions about variances and cor-

relations across diagnostic categories and so fail to achieve anything like maximal discrimination. A second problem common to both the statistical methods is that, because their ground rules are derived in the first place from clinical ratings and diagnoses, the short-comings of these data are incorporated into the resulting program. If the initial data are unreliable and biased the program's rules will necessarily be in some respects inappropriate, and its discriminating power blunted as a result. This has two important consequences. The failure of a Bayesian or discriminant function program to generate appropriate diagnoses may be due to the short-comings of the clinical data from which it was derived rather than to the inherent short-comings of the statistical method. Conversely an improvement in the quality of the original developmental data may be expected to result in improved performance by the program.

Fleiss and his colleagues (Fleiss, Spitzer, Cohen and Endicott, 1972) have recently compared the efficacy of a logical decision tree program (Diagno II), a Bayesian program and a multiple discriminant function procedure at distinguishing twelve broad diagnostic categories in a series of 740 patients rated on the CAPPS. Over half these patients had to be used for developing the statistical rules of the Bayesian and discriminant function programs and the actual comparison was therefore restricted to the remaining 286 patients. Using K_w as an index of the degree of concordance between the original clinical diagnoses and the corresponding computer categories they found little difference between the three approaches; K_w lay between 0.43 and 0.48 for all three. However, the discriminant function program was less successful than the other two in reproducing the percentage distribution of the clinicians' diagnoses, mainly because it overdiagnosed paranoid schizophrenia at the expense of non-paranoid forms. When a second comparison was carried out on quite different data - CAPPS ratings obtained from a series of 435 women from an obstetric ward, and so with a much lower overall psychiatric morbidity than the previous material - Diagno came out best with an average K_w for concordance with the clinicians' diagnoses of 0.36, compared with 0.28 for the discriminant function program, and 0.20 for the Bayesian approach. The authors concluded from these results that 'at the present time, a logical decision tree method such as Diagno II is preferable for computer diagnosis to the Bayes and discriminant function methods'. This is a fair assessment of the current situation, though it is likely that discriminant function procedures will eventually prove superior once the practical problems of obtaining sufficiently large series of patients for developmental purposes have been overcome. The appropriate choice in any given situation will also be influenced by other considerations peculiar to that situation - how valuable it would be to have alternative diagnoses available as well as a single 'first choice' diagnosis, whether a wide range of separate diagnoses are needed or only an accurate assignment to a few major categories, and whether or not sufficient data are available to provide an adequate developmental sample for either of the statistical methods.

References

- ALBEE, G. W. (1970). Notes towards a position paper opposing psychodiagnosis. In *New Approaches to Personality Classification*, ed. Mahrer, A. R. pp. 385-395. New York: Columbia University Press.
- AMERICAN PSYCHIATRIC ASSOCIATION. (1952) *Diagnostic and Statistical Manual of Mental Disorders*, 1st edn. (DSM-I), Washington, DC: APA.
- AMERICAN PSYCHIATRIC ASSOCIATION. (1968) *Diagnostic and Statistical Manual of Mental Disorders*, 2nd edn. (DSM-II), Washington, DC: APA.
- ARMITAGE, P. (1971) *Statistical Methods in Medical Research*. p. 336. Oxford: Blackwell Scientific Publications.
- ASH, P. (1949) The reliability of psychiatric diagnoses, *Journal of Abnormal and Social Psychology*, **44**, 272-276.
- ASTRACHAN, B. M., HARROW, M., ADLER, D., BRAUER, L., SCHWARTZ, C. & TUCKER, G. (1972) A checklist for the diagnosis of schizophrenia, *British Journal of Psychiatry*, **121**, 529-539.
- ASTRUP, C. & ØDEGAARD, Ø. (1970) Continued experiments in psychiatric diagnosis. *Acta Psychiatrica Scandinavica*, **46**, 180-209.
- BANNISTER, D. & FRANSELLA, F. (1966) A grid test of schizophrenic thought disorder. *British Journal of Social and Clinical Psychology*, **5**, 95-102.
- BANNISTER, D., SALMON, P. & LEIBERMAN, D. M. (1964) Diagnosis-treatment relationships in psychiatry: a statistical analysis. *British Journal of Psychiatry*, **110**, 726-732.
- BECK, A. T. (1962) Reliability of psychiatric diagnoses: a critique of systematic studies. *American Journal of Psychiatry*, **119**, 210-216.
- BECK, A. T., WARD, C., MENDELSON, M., MOCK, J. & ERBAUGH, J. (1961) An inventory for measuring depression. *Archives of General Psychiatry*, **4**, 561-571.
- BECK, A. T., WARD, C., MENDELSON, M., MOCK, J. & ERBAUGH, J. (1962) Reliability of psychiatric diagnoses: 2. A study of consistency of clinical judgements and ratings. *American Journal of Psychiatry*, **119**, 351-357.
- BIRNBAUM, A. & MAXWELL, A. E. (1961) Classification procedures based on Bayes' formula. *Applied Statistics*, **9**, 152-169.
- BOISEN, A. T. (1938) Types of dementia praecox: a study in psychiatric classification. *Psychiatry*, **1**, 233-236.
- BRIDGMAN, P. W. (1927) *The Logic of Modern Physics*, New York: Macmillan.
- BUMKE, O. (1909) Über die Umgrenzung des manisch-depressiven Irreseins. *Zentralblatt für Nervenheilkunde und Psychiatrie*, **20**, 381-403.
- BURDOCK, E. I. & HARDESTY, A. S. (1969) *Structured Clinical Interview Manual*, New York: Springer.
- CAMERON, D. E. (1953) A theory of diagnosis. In *Current Problems in Psychiatric Diagnosis*, eds. Hoch, P. H. & Zubin, J., pp. 33-45. New York: Grune and Stratton.
- CARNEY, M. W. P., ROTH, M. & GARSIDE, R. F. (1965) The diagnosis of depressive syndromes and the prediction of E.C.T. response. *British Journal of Psychiatry*, **111**, 659-674.

References

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- CATTELL, R. B. (1970) The integration of functional and psychometric requirements in a quantitative and computerised diagnostic system. In *New Approaches to Personality Classification*, ed. Mahrer, A. R. pp. 9-52. New York: Columbia University Press.
- CLAUSEN, J. A. (1971) Psychosocial diagnosis: what and why? *American Journal of Orthopsychiatry*, **41**, 847-848.
- COHEN, H. (1943) *The Nature, Method and Purpose of Diagnosis*, Cambridge: Cambridge University Press.
- COHEN, H. (1953) The evolution of the concept of disease. *Proceedings of the Royal Society of Medicine*, **48**, 155-160.
- COHEN, J. (1960) A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, **20**, 37-46.
- COHEN, J. (1968) Weighted kappa: nominal scale agreement with provision for scaled disagreement or partial credit. *Psychological Bulletin*, **70**, 213-220.
- COOPER, J. E., KENDELL, R. E., GURLAND, B. J., SHARPE, L., COPELAND, J. R. M. & SIMON, R. (1972) *Psychiatric Diagnosis in New York and London. Maudsley Monograph No. 20*, London: Oxford University Press.
- COPELAND, J. R. M., COOPER, J. E., KENDELL, R. E. & GOURLAY, A. J. (1971) Differences in usage of diagnostic labels amongst psychiatrists in the British Isles. *British Journal of Psychiatry*, **118**, 629-640.
- COWIE, V. (1961) The incidence of neurosis in the children of psychotics. *Acta Psychiatrica Scandinavica*, **37**, 37-87.
- CROOKS, J., MURRAY, I. P. C. & WAYNE, E. J. (1959) Statistical methods applied to the clinical diagnosis of thyrotoxicosis. *Quarterly Journal of Medicine*, **28**, 211-234.
- DAVIS, H. (1974) What does the P scale measure? *British Journal of Psychiatry*, **125**, 161-167.
- ELSTEIN, A. S., KAGAN, N., SHULMAN, L. S., HILLIARD, J. & LOUPE, M. J. (1972) Methods and theory in the study of medical inquiry. *Journal of Medical Education*, **47**, 85-92.
- ENDICOTT, J. & SPITZER, R. L. (1972) Current and Past Psychopathology Scales (CAPPS): rationale, reliability and validity. *Archives of General Psychiatry*, **27**, 678-687.
- ENGELSMANN, F., VINAR, O., PICHOT, P., HIPPIUS, H., GIBERTI, F., ROSSI, L. & OVERALL, J. (1970) International comparison of diagnostic patterns. *Transcultural Psychiatric Research*, **7**, 130-137.
- ENGLE, R. L. (1963) Medical diagnosis: past, present and future. II Philosophical foundations and historical development of our concepts of health, disease and diagnosis. *Archives of Internal Medicine*, **112**, 520-529.
- ESSEN-MÖLLER, E. (1961) On classification of mental disorders. *Acta Psychiatrica Scandinavica*, **37**, 119-126.
- ESSEN-MÖLLER, E. (1971) Suggestions for further improvement of the international classification of mental disorders. *Psychological Medicine*, **1**, 308-311.
- ESSEN-MÖLLER, E. (1973) Standard lists for threefold classification of mental disorders. *Acta Psychiatrica Scandinavica*, **49**, 198-212.
- ESSEN-MÖLLER, E. & WOHLFAHRT, S. (1947) Suggestions for the amendment of the official Swedish classification of mental disorders. *Acta Psychiatrica et Neurologica Scandinavica*, Suppl. **47**, 551-555.
- EVERITT, B. S. (1974) *Cluster Analysis*. London: Heinemann.
- EVERITT, B. S., GOURLAY, A. J. & KENDELL, R. E. (1971) An attempt at validation of traditional psychiatric syndromes by cluster analysis. *British Journal of Psychiatry*, **119**, 399-412.
- EWALT, J. R. (1972) Differing concepts of diagnosis as a problem in classification. *American Journal of Psychiatry*, May Suppl. **128**, 18-20.
- EYSENCK, H. J. (1950) Criterion analysis: an application of the hypothetico-deductive method to factor analysis. *Psychological Review*, **57**, 38-53.
- EYSENCK, H. J. (1951) Schizophrenia - cyclothymia as a dimension of personality. *Journal of Personality*, **20**, 345-384.
- EYSENCK, H. J. (1955) Psychiatric diagnosis as a psychological and statistical problem. *Psychological Reports*, **1**, 3-17.
- EYSENCK, H. J. (1960) Classification and the problem of diagnosis. In *Handbook of Abnormal Psychology*, 1st edn. ed. Eysenck, H. J. pp. 1-31. London: Pitman.

- EYSENCK, H. J. (1970) A dimensional system of psychodiagnostics. In *New Approaches to Personality Classification*, ed. Mahler, A. R. pp. 169-207. New York: Columbia University Press.
- EYSENCK, S. B. G. (1956) Neurosis and psychosis: an experimental analysis. *Journal of Mental Science*, **102**, 517-529.
- EYSENCK, S. B. G. & EYSENCK, H. J. (1970) Crime and personality: an empirical study of the three-factor theory. *British Journal of Criminology*, **10**, 225-239.
- FEIGHNER, J. P., ROBINS, E., GUZE, S. B., WOODRUFF, R. A., WINOKUR, G. & MUNOZ, R. (1972) Diagnostic criteria for use in psychiatric research. *Archives of General Psychiatry*, **26**, 57-63.
- FEINSTEIN, A. R. (1964) Scientific methodology in clinical medicine. II Classification of human disease by clinical behaviour. *Annals of Internal Medicine*, **61**, 757-781.
- FEINSTEIN, A. R. (1969) Taxonomy and logic in clinical data. *Annals of the New York Academy of Sciences*, **161**, 450-459.
- FISHER, R. A. (1936) The use of multiple measurements in taxonomic problems. *Annals of Eugenics*, **7**, 179-184.
- FLEISS, J. L. (1972) Classification of the depressive disorders by numerical typology. *Journal of Psychiatric Research*, **9**, 141-153.
- FLEISS, J. L., SPITZER, R. L., COHEN, J. & ENDICOTT, J. (1972) Three computer diagnosis methods compared. *Archives of General Psychiatry*, **27**, 643-649.
- FLETCHER, C. M., JONES, N. L., BURROWS, B. & NIDEN, A. H. (1964) American emphysema and British bronchitis: a standardised comparative study. *American Review of Respiratory Disease*, **90**, 1-13.
- FORGY, E. W. (1968) Discussant's remarks. In *Classification in Psychiatry and Psychopathology*, eds. Katz, M. M., Cole, J. O. & Barton, W. E. pp. 410-415. Washington, DC: Public Health Service Publication No. 1584.
- FOULDS, G. A. (1955) The reliability of psychiatric and the validity of psychological diagnoses. *Journal of Mental Science*, **101**, 851-862.
- FOULDS, G. A. (1965) *Personality and Personal Illness*. London: Tavistock Publications.
- FOULDS, G. A. (1973) The relationship between the depressive illnesses. *British Journal of Psychiatry*, **122**, 531-533.
- FRANK, G. H. (1969) Psychiatric diagnosis: a review of research. *Journal of General Psychology*, **81**, 157-176.
- FREUDENBERG, R. K. & ROBERTSON, J. P. S. (1956) Symptoms in relation to psychiatric diagnosis and treatment. *Archives of Neurology and Psychiatry*, **76**, 14-22.
- GARMEZY, N. (1968) Process and reactive schizophrenia: some conceptions and issues. In *Classification in Psychiatry and Psychopathology*, eds. Katz, M. M., Cole, J. O., & Barton, W. E. pp. 419-466. Washington DC: Public Health Service Publication No. 1584.
- GAURON, E. F. & DICKINSON, J. K. (1966a). Diagnostic decision making in psychiatry. I. Information usage. *Archives of General Psychiatry*, **14**, 225-232.
- GAURON, E. F. & DICKINSON, J. K. (1966b) Diagnostic decision making in psychiatry. II. Diagnostic styles. *Archives of General Psychiatry*, **14**, 233-237.
- GAURON, E. F. & DICKINSON, J. K. (1969) The influence of seeing the patient first on diagnostic decision making in psychiatry. *American Journal of Psychiatry*, **126**, 199-205.
- GENERAL REGISTER OFFICE (1968) *A Glossary of Mental Disorders*. *Studies on Medical and Population Subjects* No. 22, London: HMSO.
- GOLDBERG, D. P. (1972) The Detection of Psychiatric Illness by Questionnaire. *Maudsley Monograph* No. 21, London: Oxford University Press.
- GOLDFARB, A. (1959) Reliability of diagnostic judgements by psychologists. *Journal of Clinical Psychology*, **15**, 392-396.
- GRUENBERG, E. M. (1969) How can the new diagnostic manual help? *International Journal of Psychiatry*, **7**, 368-374.
- GUILDFORD, J. P. (1954) *Psychometric Methods*, 2nd edn. p. 279. London: McGraw-Hill.
- GURNEY, C., ROTH, M., GARSIDE, R. F., KERR, T. A. & SHAPIRA, K. (1972) Studies in the classification of affective disorders. The relationship between anxiety states and depressive illnesses, II. *British Journal of Psychiatry*, **121**, 162-166.

- HARDIN, G. (1956) Meaninglessness of the word protoplasm. *Scientific Monthly*, **82**, 112-120.
- HEMPEL, C. G. (1961) Introduction to problems of taxonomy. In *Field Studies in the Mental Disorders*, ed. Zubin, J. pp. 3-22. New York: Grune and Stratton.
- HEYNS, R. W. & LIPPITT, R. (1954) Systematic observational techniques. In *Handbook of Social Psychology*, ed. Lindzey, G. Vol. I, pp. 307-404, Cambridge, Massachusetts: Addison, Wesley.
- HOBSON, R. F. (1953) Prognostic factors in electrical convulsive therapy. *Journal of Neurology, Neurosurgery and Psychiatry*, **16**, 275-281.
- HOCHE, A. (1910) Die Melancholiefrage. *Zentralblatt für Nervenheilkunde und Psychiatrie*, **21**, 193-203.
- HORDERN, A., SANDIFER, M. G., GREEN, L. M. & TIMBURY, G. C. (1968) Psychiatric diagnosis: British and North American concordance on stereotypes of mental illness. *British Journal of Psychiatry*, **114**, 935-944.
- HUDGENS, R. W. (1971) The use of the term 'Undiagnosed Psychiatric Disorder'. *British Journal of Psychiatry*, **119**, 529-532.
- HUNT, W. A., WITTON, C. L. & HUNT, E. B. (1953) A theoretical and practical analysis of the diagnostic process. In *Current Problems in Psychiatric Diagnosis*, eds. Hoch, P. H. & Zubin, J. pp. 53-65. New York: Grune and Stratton.
- JASPERS, K. (1959) *Allgemeine Psychopathologie*, 7th edn. Translation by Hoenig, J. & Hamilton, M. W. (1962) Manchester: Manchester University Press.
- JOHNSON, G., GERSHON, S., BURDOCK, E. I., FLOYD, A. & HEKIMIAN, L. (1971) Comparative effects of lithium and chlorpromazine in the treatment of acute manic states. *British Journal of Psychiatry*, **119**, 267-276.
- KANFER, F. H. & SASLOW, G. (1965) Behavioral analysis: an alternative to diagnostic classification. *Archives of General Psychiatry*, **12**, 529-538.
- KATZ, M., COLE, J. O. & LOWERY, H. A. (1969) Studies of the diagnostic process: the influence of symptom perception, past experience and ethnic background on diagnostic decisions. *American Journal of Psychiatry*, **125**, 937-947.
- KELLY, D. H. W. (1966) Measurement of anxiety by forearm blood flow. *British Journal of Psychiatry*, **112**, 789-798.
- KENDELL, R. E. (1968a) The Classification of Depressive Illnesses. *Maudsley Monograph* No. 18, London: Oxford University Press.
- KENDELL, R. E. (1968b) An important source of bias affecting ratings made by psychiatrists. *Journal of Psychiatric Research*, **6**, 135-141.
- KENDELL, R. E. (1969) The continuum model of depressive illness. *Proceedings of the Royal Society of Medicine*, **62**, 335-339.
- KENDELL, R. E. (1973a) Psychiatric diagnoses: a study of how they are made. *British Journal of Psychiatry*, **122**, 437-445.
- KENDELL, R. E. (1973b) The influence of the 1968 glossary on the diagnoses of English psychiatrists. *British Journal of Psychiatry*, **123**, 527-530.
- KENDELL, R. E., COOPER, J. E., GOURLAY, A. J., COPELAND, J. R. M., SHARPE, L. & GURLAND, B. J. (1971) Diagnostic criteria of American and British psychiatrists. *Archives of General Psychiatry*, **25**, 123-130.
- KENDELL, R. E., EVERITT, B., COOPER, J. E., SARTORIUS, N. & DAVID, M. E. (1968) The reliability of the 'Present State Examination'. *Social Psychiatry*, **3**, 123-129.
- KENDELL, R. E. & GOURLAY, J. (1970a) The clinical distinction between psychotic and neurotic depression. *British Journal of Psychiatry*, **117**, 257-260.
- KENDELL, R. E. & GOURLAY, J. (1970b) The clinical distinction between the affective psychoses and schizophrenia. *British Journal of Psychiatry*, **117**, 261-266.
- KENDELL, R. E., PICHOT, P. & von CRANACH, M. (1974) Diagnostic criteria of English, French and German psychiatrists. *Psychological Medicine*, **4**, 187-195.
- KENDELL, R. E. & POST, F. (1973) Depressive illnesses in late life. *British Journal of Psychiatry*, **122**, 615-617.
- KING, G. F. (1954) Research with neuropsychiatric samples. *Journal of Psychology*, **38**, 383-387.
- KLINE, N. S., TENNEY, A. M., NICOLAOU, G. T. & MALZBERG, B. (1953) The selection of psychiatric patients for research. *American Journal of Psychiatry*, **110**, 179-185.

- KOSTLAN, A. (1954) A method for the empirical study of psychodiagnostics. *Journal of Consulting Psychology*, **18**, 83-88.
- KRAMER, M. (1961) Some problems for international research suggested by observations on differences in first admission rates to the mental hospitals of England and Wales and of the United States. In *Proceedings of the Third World Congress of Psychiatry*, Vol. 3. pp. 153-160. Montreal: Toronto University Press.
- KRAÜPL TAYLOR, F. (1971) A logical analysis of the medico-psychological concept of disease. *Psychological Medicine*, **1**, 356-364 & **2**, 7-16.
- KREITMAN, N. (1961) The reliability of psychiatric diagnosis. *Journal of Mental Science*, **107**, 876-886.
- KREITMAN, N., SAINSBURY, P., MORRISSEY, J., TOWERS, J. & SCRIVENER, J. (1961) The reliability of psychiatric assessment: an analysis. *Journal of Mental Science*, **107**, 887-908.
- KUBIE, L. S. (1971) Multiple fallacies in the concept of schizophrenia. In *Problems of Psychosis*, ed. Doucet, P. & Laurin, C. pp. 301-311. Amsterdam: Excerpta Medica.
- LAWLEY, D. N. & MAXWELL, A. E. (1971) *Factor Analysis as a Statistical Method*, 2nd edn. London: Butterworths.
- LEAPER, D. J., GILL, P. W., STANILAND, J. R., HORROCKS, J. C. & DE DOMBAL, F. T. (1973) Clinical diagnostic process: an analysis. *British Medical Journal*, **3**, 569-574.
- LEARY, T. & COFFEY, H. S. (1955) Interpersonal diagnosis: some problems of methodology and validation. *Journal of Abnormal and Social Psychology*, **50**, 110-124.
- LEDLEY, R. S. & LUSTED, L. B. (1959) Reasoning foundations of medical diagnosis. *Science*, **130**, 9-21.
- LEHMANN, H. E. (1968) Discussant's remarks. In *Classification in Psychiatry and Psychopathology*, eds. Katz, M. M., Cole, J. O. & Barton, W. E. pp. 330-344. Washington DC: Public Health Service Publication No. 1584.
- LEHMANN, H. E. (1971) Epidemiology of depressive disorders. In *Depression in the 70's*, ed. Fieve, R. pp. 21-30. Amsterdam: Excerpta Medica.
- LEHMANN, H. E., BAN, T. A. & DONALD, M. (1965) Rating the rater. *Archives of General Psychiatry*, **13**, 67-75.
- LEWIS, A. J. (1946) Ageing and senility: a major problem of psychiatry. *Journal of Mental Science*, **92**, 150-170.
- LEWIS, A. J. (1953) Health as a social concept. *British Journal of Sociology*, **4**, 109-124.
- LIDZ, T., FLECK, S. & CORNELISON, A. R. (1965) *Schizophrenia and the Family*. New York: International Universities Press.
- LINDER, R. (1965) Diagnosis: description or prescription? A case study in the psychology of diagnosis. *Perceptual and Motor Skills*, **20**, 1081-1092.
- LORR, M. (1966) *Explorations in Typing Psychotics*. Oxford: Pergamon Press.
- LORR, M. (1970) A typological conception of the behavior disorders. In *New Approaches to Personality Classification*, ed. Mahrer, A. R. pp. 101-116. New York: Columbia University Press.
- LORR, M. & KLETT, C. J. (1967) *Inpatient Multidimensional Psychiatric Scale*. Palo Alto, California: Consulting Psychologists Press.
- LUBIN, A. (1950) A note on criterion analysis. *Psychological Review*, **57**, 54-57.
- LUBIN, A. (1951) Some contributions to the testing of psychological hypotheses by means of statistical multivariate analysis. Unpublished Ph.D. thesis. University of London.
- LYERLY, S. B. (1968) A survey of some empirical clustering procedures. In *Classification in Psychiatry and Psychopathology*, eds. Katz, M. M., Cole, J. O. & Barton, W. E. pp. 353-376. Washington, DC: Public Health Service Publication, No. 1584.
- MCKEON, J. J. (1967) *Hierarchical Cluster Analysis*. George Washington University Biometrics Laboratory.
- MCPHERSON, F. M., PRESLEY, A. S., ARMSTRONG, J. & CURTIS, R. H. (1974) 'Psychoticism' and psychotic illness. *British Journal of Psychiatry*, **125**, 152-160.
- MASSERMAN, J. H. & CARMICHAEL, H. T. (1938) Diagnosis and prognosis in psychiatry. *Journal of Mental Science*, **84**, 893-946.
- MAXWELL, A. E. (1961) Canonical variate analysis when the variables are dichotomous. *Educational and Psychological Measurement*, **21**, 259-272.

- MAXWELL, A. E. (1971) Multivariate statistical methods and classification problems. *British Journal of Psychiatry*, **119**, 121-127.
- MAXWELL, A. E. (1972) Difficulties in a dimensional description of symptomatology. *British Journal of Psychiatry*, **121**, 19-26.
- MAY, J. V. (1922) *Mental Diseases*. p. 246. Boston: R. G. Badger.
- MEDICAL RESEARCH COUNCIL CLINICAL PSYCHIATRY COMMITTEE. (1965) Clinical trial of the treatment of depressive illness. *British Medical Journal*, **1**, 881-886.
- MEEHL, P. E. (1967) Theory testing in psychology and physics: a methodological paradox. *Philosophy of Science*, **34**, 103-115.
- MEHLMAN, B. (1952) The reliability of psychiatric diagnoses. *Journal of Abnormal and Social Psychology*, **47**, 577-578.
- MELLOR, C. S. (1970) First rank symptoms of schizophrenia. *British Journal of Psychiatry*, **117**, 15-23.
- MELROSE, J. P., STROEBEL, C. F. & GLUECK, B. C. (1970) Diagnosis of psychopathology using stepwise multiple discriminant analysis. *Comprehensive Psychiatry*, **11**, 43-50.
- MENDLEWICZ, J., FLEISS, J. L. & FIEVE, R. R. (1972) Evidence for X-linkage in the transmission of manic-depressive illness. *Journal of the American Medical Association*, **222**, 1624-1627.
- MENNINGER, K. (1948) Changing concepts of disease. *Annals of Internal Medicine*, **29**, 318-325.
- MENNINGER, K. (1963) *The Vital Balance: the life process in mental health and illness*. New York: Viking Press.
- MEYER, A. (1907) Fundamental conceptions of dementia praecox. *Journal of Nervous and Mental Disease*, **34**, 331-336.
- MINER, G. D. (1973) The evidence for genetic components in the neuroses. *Archives of General Psychiatry*, **29**, 111-118.
- MORAN, P. A. P. (1966) The establishment of a psychiatric syndrome. *British Journal of Psychiatry*, **112**, 1165-1171.
- NATHAN, P. E., GOULD, C. F., ZARE, N. C. & ROTH, M. (1969) A systems analytic model of diagnosis: improved diagnostic validity from median data. *Journal of Clinical Psychology*, **25**, 370-375.
- NISWANDER, G. D., HASLERUD, G. M. & WEINSTEIN, A. G. (1966) A reliability study of psychiatric diagnoses. *Diseases of the Nervous System*, **27**, 111-115.
- NORRIS, V. (1959) Mental illness in London. *Maudsley Monograph No. 6*. London: Chapman and Hall.
- NYSTROM, S. (1965) On relation between clinical factors and efficiency of E.C.T. in depression. *Acta Psychiatrica Scandinavica*, Suppl. 181.
- OLDHAM, P. D., PICKERING, G., FRASER ROBERTS, J. A. & SOWRY, G. S. C. (1960) The nature of essential hypertension. *Lancet*, **1**, 1085-1093.
- OTTOSSON, J. O. & PERRIS, C. (1973) Multidimensional classification of mental disorders. *Psychological Medicine*, **3**, 238-243.
- OVERALL, J. E. (1971) Major phenomenological sub-types in a general psychiatric population. *Diseases of the Nervous System*, **32**, 383-387.
- OVERALL, J. E. & GORHAM, D. R. (1962) The Brief Psychiatric Rating Scale. *Psychological Reports*, **10**, 799-812.
- OVERALL, J. E. & GORHAM, D. R. (1963) A pattern probability model for the classification of psychiatric patients. *Behavioral Science*, **8**, 108-116.
- OVERALL, J. E., HENRY, B. W. & MARKETT, J. R. (1972) Validity of an empirically derived phenomenological typology. *Journal of Psychiatric Research*, **9**, 87-99.
- OVERALL, J. E. & HOLLISTER, L. E. (1964) Computer procedures for psychiatric classification. *Journal of the American Medical Association*, **187**, 583-588.
- PASAMANICK, B. (1963) On the neglect of diagnosis. *American Journal of Orthopsychiatry*, **33**, 397-398.
- PASAMANICK, B., DINITZ, S. & LEFTON, M. (1959) Psychiatric orientation and its relation to diagnosis and treatment in a mental hospital. *American Journal of Psychiatry*, **116**, 127-132.
- PAYKEL, E. S. (1971) Classification of depressed patients: a cluster analysis derived grouping. *British Journal of Psychiatry*, **118**, 275-288.

- PAYKEL, E. S. (1972) Depressive typologies and response to amitriptyline. *British Journal of Psychiatry*, **120**, 147-156.
- PICHOT, P., BAILLY, R. & OVERALL, J. E. (1966) Les stéréotypes diagnostiques des psychoses chez les psychiatres Français. Comparaison avec les stéréotypes Américains. *Proceedings of the Vth International Congress of the Collegium Internationale Neuropsychopharmacologicum*. pp. 16-26. *Excerpta Medica International Congress Series* No. 129.
- PILOWSKY, I., LEVINE, S. & BOULTON, D. M. (1969) The classification of depression by numerical taxonomy. *British Journal of Psychiatry*, **115**, 937-945.
- POST, F. (1972) The management and nature of depressive illnesses in late life: a follow-through study. *British Journal of Psychiatry*, **121**, 393-404.
- PRESLY, A. S. & WALTON, H. J. (1973) Dimensions of abnormal personality. *British Journal of Psychiatry*, **122**, 269-276.
- PRIEN, R. F., CAFFEY, E. M. & KLETT, C. J. (1972) A comparison of lithium carbonate and chlorpromazine in the treatment of excited schizo-affectives. *Archives of General Psychiatry*, **27**, 182-189.
- PRUSOFF, B. & KLERNAN, G. L. (1974) Differentiating depressed from anxious neurotic outpatients: use of discriminant function analysis for separation of neurotic affective states. *Archives of General Psychiatry*, **30**, 302-309.
- RAO, C. R. (1948) The utilisation of multiple measurements in problems of biological classification. *Journal of the Royal Statistical Society (Series B)*, **10**, 159-193.
- RAO, C. R. (1968) Discrimination among groups and assigning new individuals. In *Classification in Psychiatry and Psychopathology*, eds. Katz, M. M., Cole, J. O. & Barton, W. E. pp. 229-240. Washington, DC: Public Health Service Publication No. 1584.
- RAO, C. R. & SLATER, P. (1949) Multivariate analysis applied to differences between neurotic groups. *British Journal of Psychology (Statistical Section)*, **2**, 17-29.
- RAWNSLEY, K. (1967) An international diagnostic exercise. In *Proceedings of the Fourth World Congress of Psychiatry*. Vol. 4. pp. 2683-2686. Amsterdam: Excerpta Medica Foundation.
- REGISTRAR-GENERAL (1856) *Sixteenth Annual Report of the Registrar General of Births, Deaths and Marriages in England*, Appendix, p. 75. London: Eyre and Spottiswoode.
- REICH, T., CLAYTON, P. J. & WINOKUR, G. (1969) The genetics of mania. *American Journal of Psychiatry*, **125**, 1358-1368.
- REID, J. R. & FINESINGER, J. E. (1952) The role of definitions in psychiatry. *American Journal of Psychiatry*, **109**, 413-420.
- RIESE, W. (1953) *The Conception of Disease: its history, its versions and its nature*. New York: Philosophical Library.
- ROBERTS, J. M. (1959) Prognostic factors in the electroshock treatment of depressive states. *Journal of Mental Science*, **105**, 703-713.
- ROBINS, E. & GUZE, S. B. (1970) Establishment of diagnostic validity in psychiatric illness: its application to schizophrenia. *American Journal of Psychiatry*, **126**, 983-987.
- ROSENHAN, D. L. (1973) On being sane in insane places. *Science*, **179**, 250-258.
- ROSENZWEIG, N., VANDENBERG, S. G., MOORE, K. & DUKAY, A. (1961) A study of the reliability of the mental status examination. *American Journal of Psychiatry*, **117**, 1102-1108.
- RUTTER, M., LEBOVICI, S., EISENBERG, L., SNEZNEVSKII, A. V., SADOUN, R., BROOKE, E. & LIN, T. (1969) A triaxial classification of mental disorders in childhood. *Journal of Child Psychology and Psychiatry*, **10**, 41-61.
- RUTTER, M., SHAFFER, D. & SHEPHERD, M. (1973) An evaluation of the proposal for a multi-axial classification of child psychiatric disorders. *Psychological Medicine*, **3**, 244-250.
- SAGHIR, M. T. (1971) A comparison of some aspects of structured and unstructured psychiatric interviews. *American Journal of Psychiatry*, **128**, 180-184.
- SANDIFER, M. G., HORDERN, A. & GREEN, L. M. (1970) The psychiatric interview: the impact of the first three minutes. *American Journal of Psychiatry*, **126**, 968-973.
- SANDIFER, M. G., HORDERN, A., TIMBURY, G. C. & GREEN, L. M. (1968) Psychiatric diagnosis: a comparative study in North Carolina, London and Glasgow. *British Journal of Psychiatry*, **114**, 1-9.
- SANDIFER, M. G., PETTUS, C. & QUADE, D. (1964) A study of psychiatric diagnosis. *Journal of Nervous and Mental Disease*, **139**, 350-356.

- SCADDING, J. G. (1963) Meaning of diagnostic terms in broncho-pulmonary disease. *British Medical Journal*, **2**, 1425-1430.
- SCADDING, J. G. (1967) Diagnosis: the clinician and the computer. *Lancet*, **2**, 877-882.
- SCADDING, J. G. (1972) The semantics of medical diagnosis. *Biomedical Computing*, **3**, 83-90.
- SCHIEFF, T. J. (1963) The role of the mentally ill and the dynamics of mental disorder: a research framework. *Sociometry*, **26**, 436-453.
- SCHMIDT, H. O. & FONDA, C. P. (1956) The reliability of psychiatric diagnosis: a new look. *Journal of Abnormal and Social Psychology*, **52**, 262-267.
- SCHNEIDER, K. (1950) *Die Psychopathischen Persönlichkeiten*. Translation of the 9th edn. by Hamilton, M. W. (1958) pp. 7-10. London: Cassel & Co.
- SCHNEIDER, K. (1959) *Klinische Psychopathologie*. Translation of the 5th edn. by Hamilton, M. W. New York: Grune and Stratton.
- SEGUIN, C. A. (1946) The concept of disease. *Psychosomatic Medicine*, **8**, 252-257.
- SHARPE, L., GURLAND, B. J., FLEISS, J. L., KENDELL, R. E., COOPER, J. E. & COPELAND, J. R. M. (1974) Some comparisons of American, Canadian and British psychiatrists in their diagnostic concepts. *Canadian Psychiatric Association Journal*, **19**, 235-245.
- SHEPHERD, M., BROOKE, E. M., COOPER, J. E. & LIN, T. (1968) An experimental approach to psychiatric diagnosis. *Acta Psychiatrica Scandinavica*, Suppl. 201.
- SHIELDS, J. & GOTTSMAN, I. I. (1973) Cross-national diagnosis of schizophrenia in twins: the heritability and specificity of schizophrenia. *Archives of General Psychiatry*, **27**, 725-730.
- SILBERMANN, R. M. (1971) *CHAM: a classification of psychiatric states*. Amsterdam: Excerpta Medica.
- SIMON, R. J., GURLAND, B. J., FLEISS, J. L. & SHARPE, L. (1971) Impact of a patient history interview on psychiatric diagnosis. *Archives of General Psychiatry*, **24**, 437-440.
- SLATER, E. T. O. (1935) The incidence of mental disorder. *Annals of Eugenics*, **6**, 172-184.
- SLETTEN, I. W., ALTMAN, H. & ULETT, G. A. (1971) Routine diagnosis by computer. *American Journal of Psychiatry*, **127**, 1147-1152.
- SLETTEN, I. W., ULETT, G., ALTMAN, H. & SUNDERLAND, D. (1970) The Missouri Standard System of Psychiatry. *Archives of General Psychiatry*, **23**, 73-79.
- SMITH, W. G. (1966) A model for psychiatric diagnosis. *Archives of General Psychiatry*, **14**, 521-529.
- SNEATH, P. H. A. (1957) Some thoughts on bacterial classification. *Journal of General Microbiology*, **17**, 184-200.
- SPITZER, R. L., COHEN, J., FLEISS, J. L. & ENDICOTT, J. (1967) Quantification of agreement in psychiatric diagnosis. *Archives of General Psychiatry*, **17**, 83-87.
- SPITZER, R. L. & ENDICOTT, J. (1968) Diagno: a computer program for psychiatric diagnosis utilising the differential diagnostic procedure. *Archives of General Psychiatry*, **18**, 746-756.
- SPITZER, R. L. & ENDICOTT, J. (1969) Diagno II: further developments in a computer program for psychiatric diagnosis. *American Journal of Psychiatry*, **125**, (Jan. Suppl.), 12-20.
- SPITZER, R. L., ENDICOTT, J. & FLEISS, J. L. (1967) Instruments and recording forms for evaluating psychiatric status and history: rationale, method of development and description. *Comprehensive Psychiatry*, **8**, 321-343.
- SPITZER, R. L., ENDICOTT, J., FLEISS, J. L. & COHEN, J. (1970) The Psychiatric Status Schedule: a technique for evaluating psychopathology and impairment in role functioning. *Archives of General Psychiatry*, **23**, 41-55.
- SROLE, L., LANGNER, T. S., MICHAEL, S. T., OPLER, M. K. & RENNIE, T. A. C. (1962) *Mental Health in the Metropolis: the Midtown Manhattan Study*. New York: McGraw-Hill.
- STENGEL, E. (1959) Classification of mental disorders. *Bulletin of the World Health Organization*, **21**, 601-663.
- STOER, L. (1964) Agreement between psychiatric and psychological diagnoses in a state hospital. *Journal of Projective Techniques and Personality Assessment*, **28**, 233-240.
- STRAUSS, J. S. (1973) Diagnostic models and the nature of psychiatric disorder. *Archives of General Psychiatry*, **29**, 445-449.
- STRAUSS, J. S., BARTKO, J. J. & CARPENTER, W. T. (1973) The use of clustering techniques for the classification of psychiatric patients. *British Journal of Psychiatry*, **122**, 531-540.
- SZASZ, T. S. (1960) The myth of mental illness. *American Psychologist*, **15**, 113-118.

- TAYLOR, J. A. (1953) A personality scale of manifest anxiety. *Journal of Abnormal and Social Psychology*, **48**, 285-295.
- TEMERLIN, M. K. (1968) Suggestion effects in psychiatric diagnosis. *Journal of Nervous and Mental Disease*, **147**, 349-353.
- THORNDIKE, E. L. (1920) A constant error in psychological ratings. *Journal of Applied Psychology*, **4**, 25-29.
- TORGERSON, W. S. (1968) Multidimensional representation of similarity structures. In *Classification in Psychiatry and Psychopathology*, eds. Katz, M. M., Cole, J. O. & Barton, W. E. pp. 212-220. Washington DC: Public Health Service Publication No. 1584.
- TUKE, H. (1890) French retrospect. *Journal of Mental Science*, **36**, 117-122.
- TUKE, H. (1892) *Dictionary of Psychological Medicine*, Vol. 1. London: J. & A. Churchill.
- VERMA, R. M. & EYSENCK, H. J. (1973) Severity and type of psychotic illness as a function of personality. *British Journal of Psychiatry*, **122**, 573-585.
- WARD, C. H., BECK, A. T., MENDELSON, M., MOCK, J. E. & ERBAUGH, J. K. (1962) The psychiatric nomenclature. *Archives of General Psychiatry*, **7**, 198-205.
- WILSON, M. S. & MEYER, E. (1962) Diagnostic consistency in a psychiatric liaison service. *American Journal of Psychiatry*, **119**, 207-209.
- WING, J. K., BIRLEY, J. L. T., COOPER, J. E., GRAHAM, P. & ISAACS, A. D. (1967) Reliability of a procedure for measuring and classifying 'Present Psychiatric State'. *British Journal of Psychiatry*, **113**, 499-515.
- WING, J. K., COOPER, J. E. & SARTORIUS, N. (1974) *Description and Classification of Psychiatric Symptoms*. Cambridge: Cambridge University Press.
- WING, L. (1970) Observations on the psychiatric section of the international classification of diseases and the British glossary of mental disorders. *Psychological Medicine*, **1**, 79-85.
- WITTENBORN, J. R., HOLZBERG, J. D. & SIMON, B. (1953) Symptom correlates for descriptive diagnosis. *Genetic Psychology Monographs*, **47**, 237-301.
- WOLFE, J. H. (1970) Pattern clustering by multivariate analysis. *Multivariate Behavioural Research*, **5**, 329-350.
- WORLD HEALTH ORGANISATION (1948) *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death (ICD-6)*, Bulletin of the World Health Organization, Suppl. 1, Geneva: WHO.
- WORLD HEALTH ORGANIZATION (1967) *Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death (ICD-8)*, Geneva: WHO.
- WORLD HEALTH ORGANIZATION (1973a) *Report of the International Pilot Study of Schizophrenia*. Vol. 1. Geneva: WHO.
- WORLD HEALTH ORGANIZATION (1973b) *Report of the Eighth Seminar on Standardisation of Psychiatric Diagnosis, Classification and Statistics*. Geneva: WHO (offset).
- ZIGLER, E. & PHILLIPS, L. (1961) Psychiatric diagnosis: a critique. *Journal of Abnormal and Social Psychology*, **63**, 607-618.
- ZILBOORG, G. (1941) *A History of Medical Psychology*, New York: W. W. Norton & Co.
- ZUBIN, J. (1938) Socio-biological types and methods for their isolation. *Psychiatry*, **1**, 237-247.
- ZUBIN, J. (1967) Classification of the behaviour disorders. *Annual Review of Psychology*, **18**, 373-406.
- ZUBIN, J. (1968) Biometric assessment of mental patients. In *Classification in Psychiatry and Psychopathology*, eds. Katz, M. M., Cole, J. O. & Barton, W. E. pp. 353-376. Washington, DC: Public Health Service Publication No. 1584.
- ZUNG, W. K. (1965) A self-rating depression scale. *Archives of General Psychiatry*, **12**, 63-70.

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